

PATENT ABSTRACTS OF JAPAN

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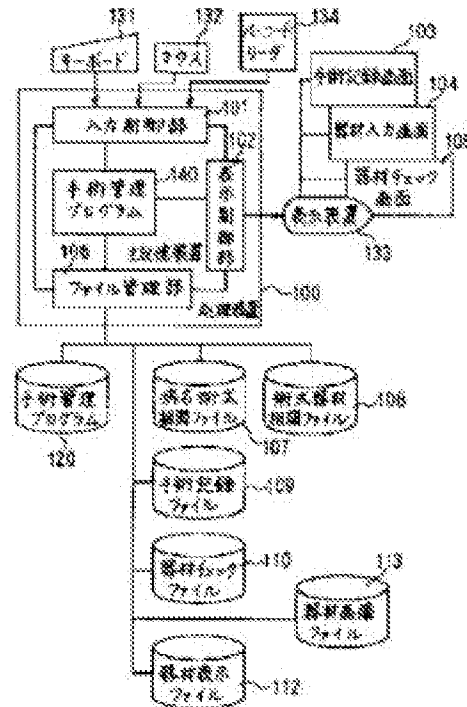
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(54) SURGERY MANAGEMENT METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To efficiently prepare tools and materials and to reduce a user's burden at the time of checking the tools and materials by improving the user's operability at the time of inputting medical operation information on the name of the disease, style of operation, tools and materials, or the like.

SOLUTION: A name of the disease and style of operation correlation file 107 comprehensively houses operation styles corresponding to disease names. An operation style and tool/material correlation file 108 houses selective tools and materials corresponding to the operation styles. When the name of a disease is inputted through an input device, a surgery management program 120 retrieves the file 107 and displays a corresponding operation style on a display device 133. In addition, when an operation style is selected, the file 108 is retrieved to display the selective tools/materials. At the time of displaying the tools/ materials, they can be displayed by the character string of the name of the tool/material and the form of the image of the tool/material by the selection of a user. In addition, the select-inputted tool/materials are registered in a tool/material check file 110 to display a tool/material checking image 105 at the time of checking the tool/material for supporting checking of the tools/ materials.



CLAIMS

[Claim(s)]

[Claim 1] In a method of carrying out the selection input of the equipment used using a computer in the case of an operation, The 1st file that stores selectable equipment corresponding to technique is prepared, Display a candidate of technique on a display device and selectable equipment is displayed on a display device corresponding to technique which searched the 1st file and was chosen when an input device was passed, it shifted and that technique was chosen, An operation management method registering equipment selected via an input device into the 2nd file collectively.

[Claim 2] The operation management method according to claim 1 displaying a candidate of another side who searches the 3rd file and corresponds when the 3rd file that furthermore stores comprehensively correspondence with the name of a disease and technique is prepared and one of the name of a disease and the technique is inputted on a display device so that it may be selectable.

[Claim 3] each equipment which was chosen and was registered into a file -- a check -- the operation management method according to claim 1 changing equipment which displayed on a display device in the incomplete state, and had checked directions via an input device into the state where it has checked.

[Claim 4] It is a computer program which describes processing which carries out the selection input of the equipment which is substantiated on a storage in which computer reading is possible, and is used in the case of an operation, When this program displays a candidate of : (a) technique containing the following steps on a display device, the (b) input device is passed, it shifts and that technique is chosen, Corresponding to technique which searched the 1st file that stores selectable equipment corresponding to technique, and was chosen, selectable equipment is displayed on a display device, equipment selected via the (c) input device is packed, and it registers with the 2nd file.

[Claim 5] The computer program according to claim 4 which searches the 3rd file that stores comprehensively correspondence with the name of a disease and technique, and is characterized by displaying a corresponding candidate of another side on a display device so that it may be selectable when one of the name of a disease and the technique is furthermore inputted.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the method of carrying out the selection input of the equipment especially used in the case of an operation with respect to the operation management method which manages the information about an operation by computer applications in a medical institution.

[0002]

[Description of the Prior Art] Preparations before an operation, such as assignment of an operating room and preparation of operation equipment, are made based on the operative note information which the operation managerial system using a computer inputted the information on the basic information of the patient who undergoes an operation via a display screen, an operation day, a family doctor, the name of a disease, the technique, the equipment to be used, etc., and was inputted and registered. Thus, the database of the accumulated operative note is utilized in the case of future operations.

[0003] When inputting the name of a disease, technique, equipment, etc. via an operation information inputting screen, the system which considers that the candidate who registers candidates, such as the name of a disease, technique, and equipment, into the file beforehand, displayed on the input screen, and was chosen via input devices, such as a mouse, is input data is common. However, conventionally, the relation between the name of a disease, technique, equipment, etc. was not taken into consideration, but it was regarded as the independent search information and the selection input was carried out. It indicated all of these information only by text. When checking the equipment furthermore prepared before the operation, the operation managerial system was checking by carrying out comparative collation of the equipment name of an equipment table and the actual thing of equipment which carried out the printout. For example, 589-592 pages (1992) of the 12th medical informatics union convention collected papers indicate the system of a typical operation managerial system.

[0004]

[Problem to be solved by the invention] The problem of the name which is displayed on a display screen and which should be inputted out of many names very much being chosen, and taking time and time and effort when inputting the name of a disease, technique, equipment, etc. and inputting respectively each candidate of the name of a disease, the technique, and equipment independently in an operation managerial system is *****. Since especially the name of operation equipment was displayed only by text, when a nurse etc. performed the input of equipment, preparation, or a check, it might take time and effort. That is, it is common to be unclear only by a name about the equipment seldom used. When checking equipment, while taking time to print an equipment table, there was a possibility that trouble might start the work which compares the equipment name and equipment of a table, and a mistake might arise.

[0005] The purpose of this invention improves the operativity of a user when inputting operation information, and there is in increasing the efficiency of preparation of equipment.

[0006]There are other purposes of this invention in reducing check mistakes while easing the burden of the user at the time of an equipment check.

[0007]

[Means for solving problem]In the way this invention carries out the selection input of the equipment used using a computer in the case of an operation, The technique equipment correlation file which stores selectable equipment corresponding to the technique is prepared, Display the candidate of the technique on a display device and selectable equipment is displayed on a display device corresponding to the technique which searched the technique equipment correlation file and was chosen when the input device was passed, it shifted and that technique was chosen, It is characterized by the operation management method which packs equipment selected via the input device and is registered into another file. The name of a disease technique correlation file which furthermore stores comprehensively correspondence with the name of a disease and the technique is prepared, and when one of the name of a disease and the technique is inputted, it is characterized by the operation management method which displays the candidate of another side who searches a name of a disease technique correlation file, and corresponds on a display device so that it may be selectable. Since the name display of arbitrary equipment can be changed to equipment image display by a user's selection when displaying equipment on a display device, grasp of the equipment which does not not much have familiarity becomes easy, and can also make preparations of equipment promptly. Since the candidate of the technique and equipment is furthermore displayed on a display screen sequentially from what has many frequency in use, selection of the technique and equipment becomes easy.

[0008]equipment which this invention was chosen and was registered into a file -- a check -- it displays on a display device in the incomplete state, and is characterized by an operation management method which changes equipment which had checked directions via an input device into the state where it has checked. By giving a name indication of equipment switchable to equipment image display also in the case of an equipment check, collation with equipment on a display screen and the actual thing becomes easy, and even if a person in charge changes in the time of an input of equipment, and an equipment check, according to a person in charge, a check of equipment becomes easy.

[0009]It is possible to store and distribute a computer program which substantiates a processing step of an operation management method which becomes this invention to a storage in which computer reading is possible.

[0010]

[Mode for carrying out the invention]One embodiment of this invention is described in detail using Drawings below.

[0011]Drawing 1 is a block diagram of information processing equipment (computer) of this embodiment which realizes an operation management method of this invention. Memory storage which stores the keyboard 131, the mouse 132, the bar code reader 134, the display device 133 and the operation control program 120, and various files is connected to the processing unit 100. When the display device 133 prepares equipment before the equipment input screen 104 for choosing and inputting the operative note screen 103 which displays operative note information,

and equipment used for an operation, and an operation, it displays the equipment check screen 105 used for an equipment check. The keyboard 131 is equipment which inputs some character strings of operative note information, including a name of patient etc. The mouse 132 is an input device for choosing a candidate of technique displayed on a screen of the display device 133, or equipment, or directing a feature button. The bar code reader 134 is equipment which inputs a bar code given to equipment. The name of a disease technique correlation file 107 stored in memory storage stores technique corresponding to the name of a disease. The technique equipment correlation file 108 registers selectable equipment corresponding to technique. The operative note file 109 is a file which registers operative note information which an input completed. The equipment display files 112 are files which collect and store information on all the equipment which can be displayed on the display device 133. The equipment graphics file 113 stores picture information of each equipment. The equipment check file 110 is a file which saves information about equipment chosen and inputted for an equipment check. The operation control program 120 is a program stored via a drive like a disk store on a storage which the processing unit 100 can read, is read into a main memory unit of the processing unit 100, and turns into the operation control program 140.

[0012]If the operation control program 140 displays the operative note screen 103 on the display device 133 via the display control part 102 and the name of a disease is inputted via the keyboard 131 and the input control part 101, All technique that corresponds via the file management section 106 with reference to the name of a disease technique correlation file 107 is taken out, and it displays on the operative note screen 103. If the mouse 132 is passed, it shifts and that technique is chosen, with reference to the technique equipment correlation file 108, all selectable equipment will be taken out corresponding to technique, and it will display on the equipment input screen 104. With reference to the equipment display files 112 and the equipment graphics file 113, equipment is displayed by character string or a picture on the equipment input screen 104 between selection operation of equipment. After an equipment input process is completed, the operation control program 140 registers selected equipment into the equipment check file 110, and registers into the operative note file 109 operative note information which an input completed. In the case of an equipment check before an operation, the operation control program 140, Operative note information is taken out from the operative note file 109, the operative note screen 103 is displayed on the display device 133, the registered equipment check file 110 is taken out, the equipment check screen 105 is displayed on the display device 133, and equipment check processing is performed.

[0013]The hardware / software mechanism in which the input control part 101 intervenes between an input device and the operation control program 140, The hardware / software mechanism in which the display control part 102 intervenes between the display device 133 and the operation control program 140, and the file management section 106 are general terms for the hardware/software which manages a program and a file.

[0014]Drawing 2 is a figure showing an example of the operative note screen 103 displayed on the display device 133. A patient number, a name of patient, a date of birth, an operation day, and a family doctor are fields where a character string is inputted respectively. The name of a disease input part 201 is a field where a patient's name of a disease is inputted by character string. The technique input part 203 is a field where selected technique is inputted. The technique

selecting part 204 is a field which displays a candidate of technique relevant to the name of a disease. The equipment button 205 is a button for opening the equipment input screen 104. The equipment display 206 is a field which displays the whole equipment chosen and registered. The equipment name 207 is a name of equipment displayed by character string. The equipment picture 208 is a name (character string) of equipment and a picture of equipment which are displayed. The registering button 209 is a button for directing to register into the operative note file 109 information inputted via the operative note screen 103. The equipment check button 210 is a button for opening the equipment check screen 105. A Cancel button is a button for closing the operative note screen 103.

[0015]Drawing 3 is a figure showing an example of the equipment input screen 104 displayed on the display device 133. The equipment input screen 104 is a screen for inputting operation appliance material relevant to technique. The equipment input part 301 is a field which displays a name and a picture of equipment which became a set, in order to input equipment. The equipment selecting part 302 is a field which displays names and pictures of equipment other than a set, in order to input equipment. The registering button 303 is a button for notifying input completion of equipment to the operation control program 140. A Cancel button is a button for closing the equipment input screen 104.

[0016]Drawing 4 is a figure showing an example of the equipment check screen 105 displayed on the display device 133. The equipment display 401 is a field which displays registered equipment. The confirmation button 402 is a button pushed when existence of specific equipment is checked. A redisplay button is a button for carrying out redisplay of the equipment on the eliminated equipment display 401. A "closed" button is a button for closing the equipment check screen 105.

[0017]Drawing 5 is a figure showing the data configuration of the name of a disease technique correlation file 107. The name of a disease technique correlation file 107 is a file which arranges comprehensively the technique 507 corresponding to the name of a disease 506, and holds the frequency 508 where the technique was adopted, to each technique 507.

[0018]Drawing 6 is a figure showing the data configuration of the technique equipment correlation file 108. The technique equipment correlation file 108 is a file which arranges the equipment 510 corresponding to the technique 509, and holds the number 511, the frequency 512, the set 513, and the picture 514 corresponding to each equipment 510. The number 511 is a required number of the equipment, and the frequency 512 is the frequency in use of the equipment. When the equipment performs an operation on the set 513, it sets up 1 or 0 according to whether it is contained in the equipment set which is needed at worst, respectively. The picture 514 sets up the file name of the equipment graphics file 113 in the case of displaying the equipment by a picture.

[0019]Drawing 7 is a figure showing a data configuration of the equipment display files 112. Each record of the equipment display files 112 comprises the equipment 515, the frequency 516, the set 517, the picture 518, the method of presentation 519, and the bar code 531. The frequency 516, the set 517, and the picture 518 are the same as the frequency 512, the set 513, and the picture 514 respectively. However, in each equipment of the equipment 515 of the equipment

display files 112, the technique equipment correlation file 108 only appears once to the selectable equipment 510 appearing every technique 509. Therefore, the frequency 516 shows the total use count of the equipment. 1 is set up, when displaying a name of the equipment only by a character string and displaying the method of presentation 519 0 and with a picture. It is possible to set up 0 about equipment expected that the frequency 516 becomes large by a suitable standard as an initial value of the method of presentation 519, and to set up 1 about equipment expected that the frequency 516 does not become large. Or the method of presentation 519 of all the equipment may be set as 0. Setting out of the method of presentation 519 can be changed freely henceforth. The bar code 531 is a number which shows bar code information given to the equipment.

[0020]Drawing 8 is a figure showing a data configuration of the operative note file 109. The operative note file 109 is a file which registers inputted operative note information, and stores the technique 521 and the selected equipment 522 other than a general matter about operations, such as a patient number and a name of patient, corresponding to the name of a disease 520.

[0021]Drawing 9 is a figure showing a data configuration of the equipment check file 110. Each record of the equipment check file 110 comprises frequency, the number, the check 902, a picture, a bar code, and the method of presentation 903. Frequency, the number, and a picture are the same as the frequency 512, the number 511, and the picture 514 respectively. An initial value is 0, and the check 902 is a flag changed into 1, when a check of the equipment ends. A bar code is the same as the bar code 531. Although the method of presentation 903 is the same as the method of presentation 519, in the case of equipment check processing, it is referred to and it is updated.

[0022]Drawing 10 a is a flow chart which shows a flow of an input process of an operative note among the operation control programs 140. The operation control program 140 displays the operative note screen 103 on the display device 133 via the display control part 102. Data is inputted into fields, such as a patient number and a name of patient, via the keyboard 131 and the input control part 101 (Step 601). If a name of a disease candidate beforehand displayed via the keyboard 131 is pointed out with the mouse 132 and the name of a disease is inputted into the name of a disease input part 201 (Step 602), a technique input process shown in drawing 10 b will be performed (Step 603). An end of a technique input process will perform an equipment input process shown in drawing 10 c (Step 604). Thus, if an input of technique and equipment is completed and a depression of the registering button 209 is detected (Step 605), operative note information inputted via the operative note screen 103 will be registered into the operative note file 109 (Step 606). 1 is added to the frequency 516 of equipment where the frequency 512 of selected equipment about the frequency 508 of technique where the name of a disease technique correlation file 107 was finally chosen, and technique as which the technique equipment correlation file 108 was chosen, and the equipment display files 112 were chosen (Step 607).

[0023]Drawing 10 b is a flow chart which develops and shows a technique input process of Step 603. The operation control program 140 uses the inputted name of a disease as a key, and searches the name of a disease technique correlation file 107 (Step 701). Technique produced by extracting altogether the technique 507 corresponding to the applicable name of a disease 506 is rearranged sequentially from a large thing of the frequency 508 (Step 702), and it displays on the

technique selecting part 204 of the operative note screen 103 (Step 703). When technique of either of the technique selecting parts 204 is chosen via the mouse 132, it is regarded as that into which selected technique was inputted, and displays on the technique input part 203 (Step 704).

[0024]Drawing 10 c is a flow chart which develops and shows the equipment input process of Step 604. When the input of the technique ends and the equipment button 205 of the operative note screen 103 is pushed, The operation control program 140 opens the equipment input screen 104 (Step 801), Use the inputted technique as a key and the technique equipment correlation file 108 is searched (Step 802), The equipment produced by extracting altogether the equipment 510 corresponding to the applicable technique 509 is rearranged sequentially from the large thing of the frequency 512 (Step 803), and it displays on the equipment input screen 104 (Step 804). At this time, the set 513 displays the equipment set as 1 on the equipment input part 301 sequentially from the large thing of the frequency 512, and displays the equipment set as 0 on the equipment selecting part 302 sequentially from the large thing of the frequency 512. The operation control program 140 uses as a key each equipment made into an object, and searches the equipment display files 112, In the equipment of 0, with reference to the method of presentation 519 of the applicable equipment 515, the method of presentation 519 displays only the name of equipment, The equipment of 1 takes out the picture information corresponding to an image file name from the equipment graphics file 113 with reference to the picture 518 (or picture 514), and displays it on the equipment input part 301 and the equipment selecting part 302 with a picture. If the cursor of the mouse 132 is applied and double-clicked on the equipment name in the equipment input part 301 or the equipment selecting part 302, the operation control program 140 will change into 1 from 0 the method of presentation 519 of the equipment in which the equipment display files 112 correspond, and will change the equipment to image display. If the cursor of the mouse 132 is applied and double-clicked on an equipment picture, the method of presentation 519 of the equipment in which the equipment display files 112 correspond will be changed into 0 from 1, and the equipment will be changed to an equipment name display. Next, equipment is movable between the equipment input part 301 and the equipment selecting part 302 (Step 805). If deleting operation of the equipment in the equipment input part 301 is performed, the specified equipment will be deleted from the equipment input part 301, and will be added and displayed on the equipment selecting part 302. If selection operation is performed about the equipment in the equipment selecting part 302, the specified equipment will be deleted from the equipment selecting part 302, and will be added and displayed on the equipment input part 301. Movement of the equipment between the equipment input part 301 and the equipment selecting part 302 is possible for operation by directing the button which points to an equipment name or an equipment picture with the mouse 132 and in which selection or deletion is shown, or choosing an equipment name or an equipment picture, and dragging with a mouse. Thus, if the equipment in the equipment input part 301 to adopt is determined and the depression of the registering button 303 is detected, the equipment input screen 104 will be closed, the operative note screen 103 will be opened, and selected equipment will be displayed on the equipment display 206 (Step 806). It is possible to change an equipment name display to equipment image display, or to change it to this reverse display like [equipment / which was displayed on the equipment display 206] operation of Step 804, and if the method of presentation is changed, according to it, the method of presentation 519 of the equipment display files 112 will be updated. The record of the equipment check file 110 is created and registered about equipment selected at the end (Step 807). The frequency of the equipment check file 110, the number, and

an image column copy the data of the equipment in which the technique equipment correlation file 108 corresponds. The check 902 is altogether initialized to 0. A bar code copies the bar code 531 of the equipment display files 112. The method of presentation 903 sets up the newest method of presentation 519 of the equipment display files 112.

[0025]Drawing 11 is a flow chart which shows a flow of equipment check processing among the operation control programs 140. The operation control program 140 uses a name of patient etc. as a key, searches the operative note file 109, takes out operative note information, creates the operative note screen 103, and displays it on the display device 133 via the display control part 102 (Step 1001). If it detects that the equipment check button 210 on the operative note screen 103 was pushed (Step 1002), The equipment check screen 105 is opened, the equipment check file 110 corresponding to this operative note is acquired, and it rearranges sequentially from what has large frequency of equipment, and displays on the equipment display 401 (Step 1003). The check 902 displays only equipment of 0 among equipment stored in the equipment check file 110 at this time. A display of equipment is performed in the form of an equipment name or an equipment picture in accordance with the method of presentation 903. A change between an equipment name display and equipment image display is possible about equipment displayed on the equipment display 401 as well as operation of Step 804, and if the method of presentation is changed, according to it, the method of presentation 903 of the equipment check file 110 will be updated. A user checks here equipment prepared before an operation one by one. Check operation is performed by reading a bar code which carried out the depression of the confirmation button 402, or was given to equipment via the bar code reader 134, after pointing to equipment in the equipment display 401 via the mouse 132. The operation control program 140 will update the check 902 of equipment with the check 902 corresponding to checked equipment, or an inputted bar code to 1, if one of check operations is detected (Step 1004) (Step 1005). Next, it is judged whether it searches for the check 902 of the equipment check file 110 altogether, and there is equipment with 0, i.e., equipment in which a check is not settled, (Step 1006). If there is equipment which is not check settled (step 1006No), it will return to Step 1003 and the above-mentioned processing will be repeated. When a check of all the equipment of the equipment check file 110 ends (step 1006Yes), a message of a purport that closed the equipment check screen 105 and a check was completed on the display device 133 is displayed (Step 1007), and processing of the operation control program 140 is ended. If "redisplay" button on the equipment check screen 105 is pushed, the check 902 of the equipment check file 110 will be altogether reset to 0, and processing will be resumed from Step 1003.

[0026]According to the above-mentioned embodiment, after inputting the name of a disease, a technique input process is performed, and when one of technique is chosen, a procedure of performing an equipment input process is taken. It is very good in a procedure of inputting the name of a disease corresponding to technique which inputted technique, and was inputted as other embodiments of this invention after performing an equipment input process. Or after inputting technique and inputting the name of a disease corresponding to inputted technique, it is very good in a procedure of performing an equipment input process. In any case, the name of a disease technique correlation file 107 needs to be constituted so that the name of a disease 506 corresponding considering the inputted technique 507 as a key can be searched.

[0027]If in the case of a procedure of a technique input-equipment input process-name of a disease input display a candidate of all the technique on the technique selecting part 204, the mouse 132 is passed, it shifts and that technique is chosen, selected technique will be displayed on the technique input part 203. Next, if the depression of the equipment button 205 is carried out, the operation control program 140 will perform an equipment input process of Step 604. Since technique is determined, the operation control program 140 uses technique as a key, searches the name of a disease technique correlation file 107, and displays a corresponding candidate of one or the two name of a diseases or more on the display device 103. When the number of the corresponding name of a diseases is one, it inputs into the name of a disease input part 201 directly, and the name of a disease is determined. When there are two or more candidates of the name of a disease, a scolded candidate of the name of a disease is displayed, and the selected name of a disease is inputted into the name of a disease input part 201.

[0028]After inputting the technique as mentioned above in the case of the procedure of a technique input-name of a disease input-equipment input process, the operation control program 140 displays the candidate of one or the two name of a diseases or more corresponding to the selected technique on the display device 103. When the number of the name of a diseases is one, and it inputs into the name of a disease input part 201 directly and there are two or more candidates of the name of a disease, the selected name of a disease is inputted into the name of a disease input part 201. Subsequently, the equipment input process of Step 604 is performed by the depression of the equipment button 205.

[0029]

[Effect of the Invention]Since the technique and equipment which are displayed on a display screen are narrowed down corresponding to the name of a disease and the technique, respectively according to this invention as stated above, selection of the technique and equipment becomes easy and can improve the operativity of operation information inputting. While it is possible to display the arbitrary equipment which a user specifies by a picture and being able to shorten the time of equipment preparation, there is an effect of the education to a nurse etc. Furthermore the burden of the user in the case of an equipment check can be eased, and check mistakes can be reduced.

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TECHNICAL FIELD

[Field of the Invention]This invention relates to the method of carrying out the selection input of the equipment especially used in the case of an operation with respect to the operation management method which manages the information about an operation by computer applications in a medical institution.

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PRIOR ART

[Description of the Prior Art]Preparations before an operation, such as assignment of an operating room and preparation of operation equipment, are made based on the operative note information which the operation managerial system using a computer inputted the information on the basic information of the patient who undergoes an operation via a display screen, an operation day, a family doctor, the name of a disease, the technique, the equipment to be used, etc., and was inputted and registered. Thus, the database of the accumulated operative note is utilized in the case of future operations.

[0003]When inputting the name of a disease, technique, equipment, etc. via an operation information inputting screen, the system which considers that the candidate who registers candidates, such as the name of a disease, technique, and equipment, into the file beforehand, displayed on the input screen, and was chosen via input devices, such as a mouse, is input data is common. However, conventionally, the relation between the name of a disease, technique, equipment, etc. was not taken into consideration, but it was regarded as the independent search information and the selection input was carried out. It indicated all of these information only by text. When checking the equipment furthermore prepared before the operation, the operation managerial system was checking by carrying out comparative collation of the equipment name of an equipment table and the actual thing of equipment which carried out the printout. For example, 589-592 pages (1992) of the 12th medical informatics union convention collected papers indicate the system of a typical operation managerial system.

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EFFECT OF THE INVENTION

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TECHNICAL PROBLEM

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MEANS

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[Mode for carrying out the invention]One embodiment of this invention is described in detail using Drawings below.

[0011]Drawing 1 is a block diagram of information processing equipment (computer) of this embodiment which realizes an operation management method of this invention. Memory storage which stores the keyboard 131, the mouse 132, the bar code reader 134, the display device 133 and the operation control program 120, and various files is connected to the processing unit 100. When the display device 133 prepares equipment before the equipment input screen 104 for choosing and inputting the operative note screen 103 which displays operative note information, and equipment used for an operation, and an operation, it displays the equipment check screen 105 used for an equipment check. The keyboard 131 is equipment which inputs some character strings of operative note information, including a name of patient etc. The mouse 132 is an input device for choosing a candidate of technique displayed on a screen of the display device 133, or equipment, or directing a feature button. The bar code reader 134 is equipment which inputs a bar code given to equipment. The name of a disease technique correlation file 107 stored in memory storage stores technique corresponding to the name of a disease. The technique equipment correlation file 108 registers selectable equipment corresponding to technique. The operative note file 109 is a file which registers operative note information which an input completed. The equipment display files 112 are files which collect and store information on all the equipment which can be displayed on the display device 133. The equipment graphics file 113 stores picture information of each equipment. The equipment check file 110 is a file which saves information about equipment chosen and inputted for an equipment check. The operation control program 120 is a program stored via a drive like a disk store on a storage which the processing unit 100 can read, is read into a main memory unit of the processing unit 100, and turns into the operation control program 140.

[0012]If the operation control program 140 displays the operative note screen 103 on the display device 133 via the display control part 102 and the name of a disease is inputted via the keyboard 131 and the input control part 101, All technique that corresponds via the file management section 106 with reference to the name of a disease technique correlation file 107 is taken out, and it displays on the operative note screen 103. If the mouse 132 is passed, it shifts and that technique is chosen, with reference to the technique equipment correlation file 108, all selectable equipment will be taken out corresponding to technique, and it will display on the equipment input screen 104. With reference to the equipment display files 112 and the equipment graphics file 113, equipment is displayed by character string or a picture on the equipment input screen 104 between selection operation of equipment. After an equipment input process is completed, the operation control program 140 registers selected equipment into the equipment check file 110, and registers into the operative note file 109 operative note information which an input completed. In the case of an equipment check before an operation, the operation control program 140, Operative note information is taken out from the operative note file 109, the operative note screen 103 is displayed on the display device 133, the registered equipment check file 110 is taken out, the equipment check screen 105 is displayed on the display device 133, and equipment check processing is performed.

[0013]The hardware / software mechanism in which the input control part 101 intervenes between an input device and the operation control program 140, The hardware / software mechanism in which the display control part 102 intervenes between the display device 133 and the operation control program 140, and the file management section 106 are general terms for the hardware/software which manages a program and a file.

[0014]Drawing 2 is a figure showing an example of the operative note screen 103 displayed on the display device 133. A patient number, a name of patient, a date of birth, an operation day, and a family doctor are fields where a character string is inputted respectively. The name of a disease input part 201 is a field where a patient's name of a disease is inputted by character string. The technique input part 203 is a field where selected technique is inputted. The technique selecting part 204 is a field which displays a candidate of technique relevant to the name of a disease. The equipment button 205 is a button for opening the equipment input screen 104. The equipment display 206 is a field which displays the whole equipment chosen and registered. The equipment name 207 is a name of equipment displayed by character string. The equipment picture 208 is a name (character string) of equipment and a picture of equipment which are displayed. The registering button 209 is a button for directing to register into the operative note file 109 information inputted via the operative note screen 103. The equipment check button 210 is a button for opening the equipment check screen 105. A Cancel button is a button for closing the operative note screen 103.

[0015]Drawing 3 is a figure showing an example of the equipment input screen 104 displayed on the display device 133. The equipment input screen 104 is a screen for inputting operation appliance material relevant to technique. The equipment input part 301 is a field which displays a name and a picture of equipment which became a set, in order to input equipment. The equipment selecting part 302 is a field which displays names and pictures of equipment other than a set, in order to input equipment. The registering button 303 is a button for notifying input completion of equipment to the operation control program 140. A Cancel button is a button for

closing the equipment input screen 104.

[0016]Drawing 4 is a figure showing an example of the equipment check screen 105 displayed on the display device 133. The equipment display 401 is a field which displays registered equipment. The confirmation button 402 is a button pushed when existence of specific equipment is checked. A redisplay button is a button for carrying out redisplay of the equipment on the eliminated equipment display 401. A "closed" button is a button for closing the equipment check screen 105.

[0017]Drawing 5 is a figure showing the data configuration of the name of a disease technique correlation file 107. The name of a disease technique correlation file 107 is a file which arranges comprehensively the technique 507 corresponding to the name of a disease 506, and holds the frequency 508 where the technique was adopted, to each technique 507.

[0018]Drawing 6 is a figure showing the data configuration of the technique equipment correlation file 108. The technique equipment correlation file 108 is a file which arranges the equipment 510 corresponding to the technique 509, and holds the number 511, the frequency 512, the set 513, and the picture 514 corresponding to each equipment 510. The number 511 is a required number of the equipment, and the frequency 512 is the frequency in use of the equipment. When the equipment performs an operation on the set 513, it sets up 1 or 0 according to whether it is contained in the equipment set which is needed at worst, respectively. The picture 514 sets up the file name of the equipment graphics file 113 in the case of displaying the equipment by a picture.

[0019]Drawing 7 is a figure showing a data configuration of the equipment display files 112. Each record of the equipment display files 112 comprises the equipment 515, the frequency 516, the set 517, the picture 518, the method of presentation 519, and the bar code 531. The frequency 516, the set 517, and the picture 518 are the same as the frequency 512, the set 513, and the picture 514 respectively. However, in each equipment of the equipment 515 of the equipment display files 112, the technique equipment correlation file 108 only appears once to the selectable equipment 510 appearing every technique 509. Therefore, the frequency 516 shows the total use count of the equipment. 1 is set up, when displaying a name of the equipment only by a character string and displaying the method of presentation 519 0 and with a picture. It is possible to set up 0 about equipment expected that the frequency 516 becomes large by a suitable standard as an initial value of the method of presentation 519, and to set up 1 about equipment expected that the frequency 516 does not become large. Or the method of presentation 519 of all the equipment may be set as 0. Setting out of the method of presentation 519 can be changed freely henceforth. The bar code 531 is a number which shows bar code information given to the equipment.

[0020]Drawing 8 is a figure showing a data configuration of the operative note file 109. The operative note file 109 is a file which registers inputted operative note information, and stores the technique 521 and the selected equipment 522 other than a general matter about operations, such as a patient number and a name of patient, corresponding to the name of a disease 520.

[0021]Drawing 9 is a figure showing a data configuration of the equipment check file 110. Each record of the equipment check file 110 comprises frequency, the number, the check 902, a picture, a bar code, and the method of presentation 903. Frequency, the number, and a picture are the same as the frequency 512, the number 511, and the picture 514 respectively. An initial value is 0, and the check 902 is a flag changed into 1, when a check of the equipment ends. A bar code is the same as the bar code 531. Although the method of presentation 903 is the same as the method of presentation 519, in the case of equipment check processing, it is referred to and it is updated.

[0022]Drawing 10 a is a flow chart which shows the flow of the input process of an operative note among the operation control programs 140. The operation control program 140 displays the operative note screen 103 on the display device 133 via the display control part 102. Data is inputted into fields, such as a patient number and a name of patient, via the keyboard 131 and the input control part 101 (Step 601). If the name of a disease candidate beforehand displayed via the keyboard 131 is pointed out with the mouse 132 and the name of a disease is inputted into the name of a disease input part 201 (Step 602), the technique input process shown in drawing 10 b will be performed (Step 603). An end of a technique input process will perform the equipment input process shown in drawing 10 c (Step 604). Thus, if the input of the technique and equipment is completed and the depression of the registering button 209 is detected (Step 605), the operative note information inputted via the operative note screen 103 will be registered into the operative note file 109 (Step 606). 1 is added to the frequency 516 of equipment where the frequency 512 of the selected equipment about the frequency 508 of the technique where the name of a disease technique correlation file 107 was finally chosen, and the technique as which the technique equipment correlation file 108 was chosen, and the equipment display files 112 were chosen (Step 607).

[0023]Drawing 10 b is a flow chart which develops and shows the technique input process of Step 603. The operation control program 140 uses the inputted name of a disease as a key, and searches the name of a disease technique correlation file 107 (Step 701). The technique produced by extracting altogether the technique 507 corresponding to the applicable name of a disease 506 is rearranged sequentially from the large thing of the frequency 508 (Step 702), and it displays on the technique selecting part 204 of the operative note screen 103 (Step 703). When the technique of either of the technique selecting parts 204 is chosen via the mouse 132, it is regarded as that into which the selected technique was inputted, and displays on the technique input part 203 (Step 704).

[0024]Drawing 10 c is a flow chart which develops and shows the equipment input process of Step 604. When the input of the technique ends and the equipment button 205 of the operative note screen 103 is pushed, The operation control program 140 opens the equipment input screen 104 (Step 801). Use the inputted technique as a key and the technique equipment correlation file 108 is searched (Step 802). The equipment produced by extracting altogether the equipment 510 corresponding to the applicable technique 509 is rearranged sequentially from the large thing of the frequency 512 (Step 803), and it displays on the equipment input screen 104 (Step 804). At this time, the set 513 displays the equipment set as 1 on the equipment input part 301 sequentially from the large thing of the frequency 512, and displays the equipment set as 0 on the equipment selecting part 302 sequentially from the large thing of the frequency 512. The

operation control program 140 uses as a key each equipment made into an object, and searches the equipment display files 112. In the equipment of 0, with reference to the method of presentation 519 of the applicable equipment 515, the method of presentation 519 displays only the name of equipment. The equipment of 1 takes out the picture information corresponding to an image file name from the equipment graphics file 113 with reference to the picture 518 (or picture 514), and displays it on the equipment input part 301 and the equipment selecting part 302 with a picture. If the cursor of the mouse 132 is applied and double-clicked on the equipment name in the equipment input part 301 or the equipment selecting part 302, the operation control program 140 will change into 1 from 0 the method of presentation 519 of the equipment in which the equipment display files 112 correspond, and will change the equipment to image display. If the cursor of the mouse 132 is applied and double-clicked on an equipment picture, the method of presentation 519 of the equipment in which the equipment display files 112 correspond will be changed into 0 from 1, and the equipment will be changed to an equipment name display. Next, equipment is movable between the equipment input part 301 and the equipment selecting part 302 (Step 805). If deleting operation of the equipment in the equipment input part 301 is performed, the specified equipment will be deleted from the equipment input part 301, and will be added and displayed on the equipment selecting part 302. If selection operation is performed about the equipment in the equipment selecting part 302, the specified equipment will be deleted from the equipment selecting part 302, and will be added and displayed on the equipment input part 301. Movement of the equipment between the equipment input part 301 and the equipment selecting part 302 is possible for operation by directing the button which points to an equipment name or an equipment picture with the mouse 132 and in which selection or deletion is shown, or choosing an equipment name or an equipment picture, and dragging with a mouse. Thus, if the equipment in the equipment input part 301 to adopt is determined and the depression of the registering button 303 is detected, the equipment input screen 104 will be closed, the operative note screen 103 will be opened, and selected equipment will be displayed on the equipment display 206 (Step 806). It is possible to change an equipment name display to equipment image display, or to change it to this reverse display like [equipment / which was displayed on the equipment display 206] operation of Step 804, and if the method of presentation is changed, according to it, the method of presentation 519 of the equipment display files 112 will be updated. The record of the equipment check file 110 is created and registered about equipment selected at the end (Step 807). The frequency of the equipment check file 110, the number, and an image column copy the data of the equipment in which the technique equipment correlation file 108 corresponds. The check 902 is altogether initialized to 0. A bar code copies the bar code 531 of the equipment display files 112. The method of presentation 903 sets up the newest method of presentation 519 of the equipment display files 112.

[0025]Drawing 11 is a flow chart which shows the flow of equipment check processing among the operation control programs 140. The operation control program 140 uses a name of patient etc. as a key, searches the operative note file 109, takes out operative note information, creates the operative note screen 103, and displays it on the display device 133 via the display control part 102 (Step 1001). If it detects that the equipment check button 210 on the operative note screen 103 was pushed (Step 1002), The equipment check screen 105 is opened, the equipment check file 110 corresponding to this operative note is acquired, and it rearranges sequentially from what has the large frequency of equipment, and displays on the equipment display 401 (Step 1003). The check 902 displays only the equipment of 0 among the equipment stored in the

equipment check file 110 at this time. The display of equipment is performed in the form of an equipment name or an equipment picture in accordance with the method of presentation 903. The change between an equipment name display and equipment image display is possible about the equipment displayed on the equipment display 401 as well as operation of Step 804, and if the method of presentation is changed, according to it, the method of presentation 903 of the equipment check file 110 will be updated. A user checks here the equipment prepared before the operation one by one. Check operation is performed by reading the bar code which carried out the depression of the confirmation button 402, or was given to equipment via the bar code reader 134, after pointing to the equipment in the equipment display 401 via the mouse 132. The operation control program 140 will update the check 902 of equipment with the check 902 corresponding to the checked equipment, or the inputted bar code to 1, if one of check operations is detected (Step 1004) (Step 1005). Next, it is judged whether it searches for the check 902 of the equipment check file 110 altogether, and there is equipment with 0, i.e., the equipment in which a check is not settled, (Step 1006). If there is equipment which is not check settled (step 1006No), it will return to Step 1003 and the above-mentioned processing will be repeated. When the check of all the equipment of the equipment check file 110 ends (step 1006Yes), the message of the purport that closed the equipment check screen 105 and the check was completed on the display device 133 is displayed (Step 1007), and processing of the operation control program 140 is ended. If "redisplay" button on the equipment check screen 105 is pushed, the check 902 of the equipment check file 110 will be altogether reset to 0, and processing will be resumed from Step 1003.

[0026]According to the above-mentioned embodiment, after inputting the name of a disease, a technique input process is performed, and when one of technique is chosen, the procedure of performing an equipment input process is taken. It is very good in the procedure of inputting the name of a disease corresponding to the technique which inputted the technique, and was inputted as other embodiments of this invention after performing an equipment input process. Or after inputting the technique and inputting the name of a disease corresponding to the inputted technique, it is very good in the procedure of performing an equipment input process. In any case, the name of a disease technique correlation file 107 needs to be constituted so that the name of a disease 506 corresponding considering the inputted technique 507 as a key can be searched.

[0027]If in the case of the procedure of a technique input-equipment input process-name of a disease input display the candidate of all the technique on the technique selecting part 204, the mouse 132 is passed, it shifts and that technique is chosen, the selected technique will be displayed on the technique input part 203. Next, if the depression of the equipment button 205 is carried out, the operation control program 140 will perform the equipment input process of Step 604. Since the technique is determined, the operation control program 140 uses the technique as a key, searches the name of a disease technique correlation file 107, and displays the corresponding candidate of one or the two name of a diseases or more on the display device 103. When the number of the corresponding name of a diseases is one, it inputs into the name of a disease input part 201 directly, and the name of a disease is determined. When there are two or more candidates of the name of a disease, the scolded candidate of the name of a disease is displayed, and the selected name of a disease is inputted into the name of a disease input part 201.

[0028]After inputting the technique as mentioned above in the case of the procedure of a technique input-name of a disease input-equipment input process, the operation control program 140 displays the candidate of one or the two name of a diseases or more corresponding to the selected technique on the display device 103. When the number of the name of a diseases is one, and it inputs into the name of a disease input part 201 directly and there are two or more candidates of the name of a disease, the selected name of a disease is inputted into the name of a disease input part 201. Subsequently, the equipment input process of Step 604 is performed by the depression of the equipment button 205.

[Translation done.]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a block diagram of the information processing equipment of an embodiment.

[Drawing 2]It is a figure showing the example of the operative note screen 103 of an embodiment.

[Drawing 3]It is a figure showing the example of the equipment input screen 104 of an embodiment.

[Drawing 4]It is a figure showing the example of the equipment check screen 105 of an embodiment.

[Drawing 5]It is a figure showing the data configuration of the name of a disease technique correlation file 107 of an embodiment.

[Drawing 6]It is a figure showing the data configuration of the technique equipment correlation file 108 of an embodiment.

[Drawing 7]It is a figure showing the data configuration of the equipment display files 112 of an embodiment.

[Drawing 8]It is a figure showing the data configuration of the operative note file 109 of an embodiment.

[Drawing 9]It is a figure showing the data configuration of the equipment check file 110 of an embodiment.

[Drawing 10 a] It is a flow chart which shows the flow of an operative note input process among the operation control programs 140 of an embodiment.

[Drawing 10 b] It is a flow chart which shows the flow of the technique input process of an embodiment.

[Drawing 10 c] It is a flow chart which shows the flow of the equipment input process of an embodiment.

[Drawing 11]It is a flow chart which shows the flow of equipment check processing among the operation control programs 140 of an embodiment.

[Explanations of letters or numerals]

103: An operative note screen, a 104:equipment input screen, a 105:equipment check screen, a 107:name of a disease technique correlation file, a 108:technique equipment correlation file, a 110:equipment check file, 140 : operation control program

[Translation done.]

DRAWINGS

[Drawing 5]

図 5

1 0 7 : 病名術式相関ファイル

5 0 6		5 0 7	5 0 8
病名	術式	頻度	
甲状腺腫	甲状腺部分切除術	3	
	甲状腺腫摘出術	5	
	- - -	-	
- - -	- - -	-	

[Drawing 6]

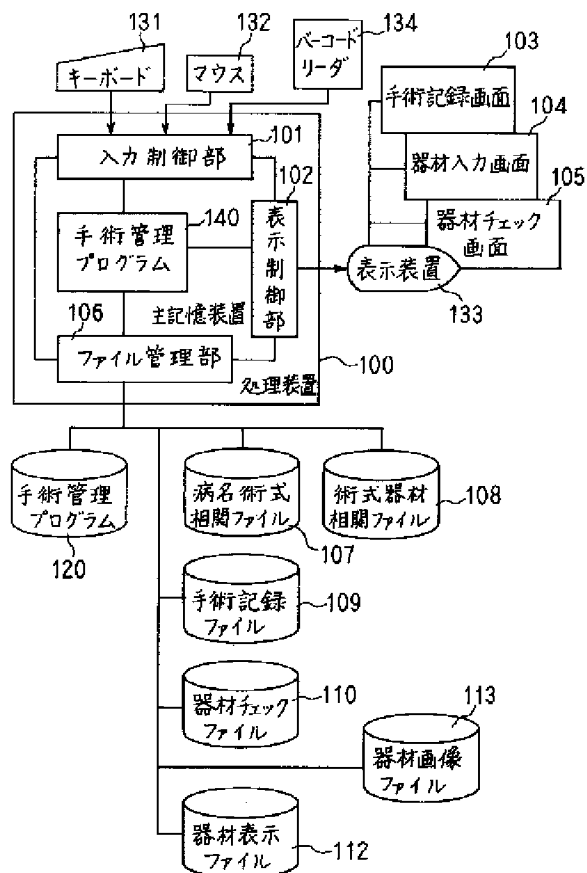
図 6

1 0 8 : 術式器材相関ファイル

5 0 9		5 1 0	5 1 1	5 1 2	5 1 3	5 1 4
術式	器材	員数	頻度	セット	画像	
甲状腺腫摘出術	消毒鉗子	2	9	1		
	メスの柄③	1	3	0		
	マチュー持針器	2	6	0		
	ヘガール持針器	2	1 2	1		
- - -	- - -	-	-	-		

[Drawing 1]

図 1



[Drawing 7]

図 7

112: 器材表示ファイル

器材	頻度	セット	画像	表示方法	バーコード
消毒鉗子	12	1		0	
メスの柄③	9	1		0	
マチュー-持針器	6	0		0	
ヘガール持針器	3	0		1	
...	

[Drawing 8]

図 8

109: 手術記録ファイル

病名	術式	器材(1)	器材(2)	...
甲状腺腫	甲状腺腫摘出術	消毒鉗子	メスの柄③	...
...

[Drawing 9]

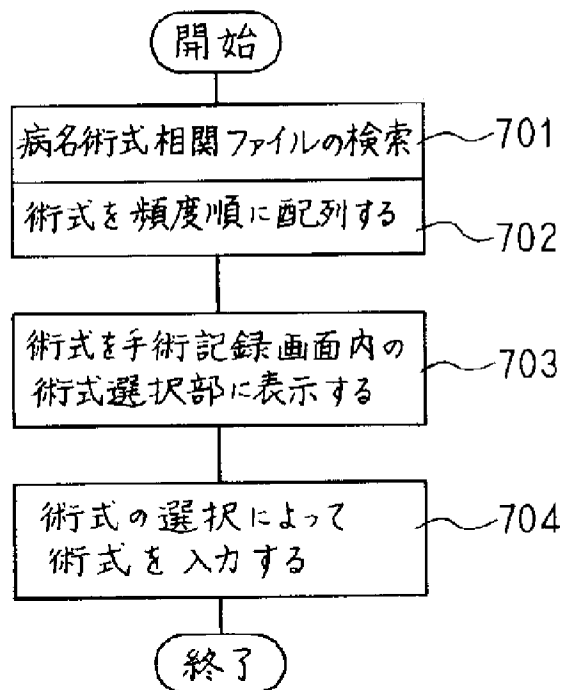
図 9

110: 器材チェックファイル

器材	頻度	員数	902 チェック	画像	バーコード	903 表示方法
消毒鉗子	9	2	0			0
メスの柄③	3	1	0			0
マチュー持針器	6	2	0			0
ヘガール持針器	12	2	0			0
...

[Drawing 10 b]

図 10b



[Drawing 2]

図 2

103 : 手術記録画面

201 患者番号

203 患者名

205 生年月日

210 手術日

206 主治医

病名

術式

器材		器材チェック	
消毒鉗子	2	メッシュ	1
メスの柄③	1	ワニ口	2
マジョー持針器	2	有鉤鑷子	2
ヘカール 持針器	2	無鉤鑷子	2
手用持針器	2	スヘンサー	5
		スヘンサー(曲)	5
		F3 鑷子	2
		直角クリ	1
		強彎クリ	1

204

208

207

209

キャンセル 登録

図 3

104 : 器材入力画面

302

術式 甲状腺腫摘出術			
消毒鉗子	2	ワニ口	2
メスの柄③	1	有鉤鑷子	2
リザー持針器	2	無鉤鑷子	2
ハガー持針器	2	スポンサー	5
手用持針器	2	スポンサー(曲)	5
メッシュ	1	F3 鑷子	2
		直角鉗子	1
		強彎鉗子	1
		コッヘル	10
		モスキート(直)	15
		布鉗子	10
		筋鉤(眼科用)	2
		筋鉤(極小)	2
		筋鉤(小) 2 A	2
		脳外吸引 嘴管③	1

301

キャンセル 登録

303

[Drawing 4]

図 4

105 : 器材チェック画面

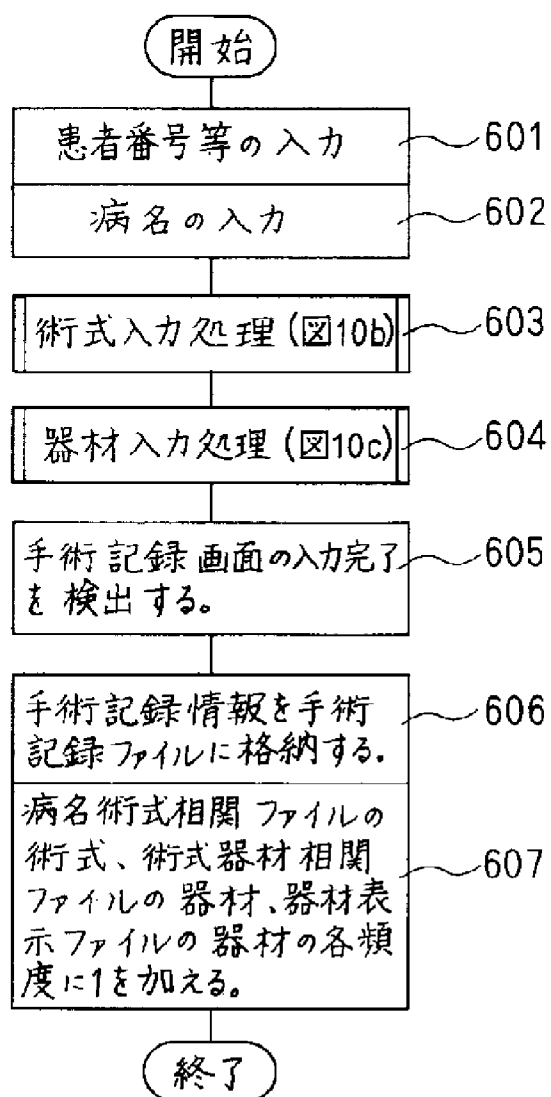
術式 甲状腺腫摘出術					
消毒鉗子	2	ワニ口	2	直角クリ-	1
メスの柄③	1	有鉤鑷子	2	強彎クリ-	1
		無鉤鑷子	2	コウヘル	10
マチュ-持針器	2	スヘンサ-	5	モスキート(直)	15
ハカ-ル持針器	2				
手持持針器	2	スヘンサ-(曲)	1		
メッシュ	1	F3鑷子	2		

確認再表示閉じる

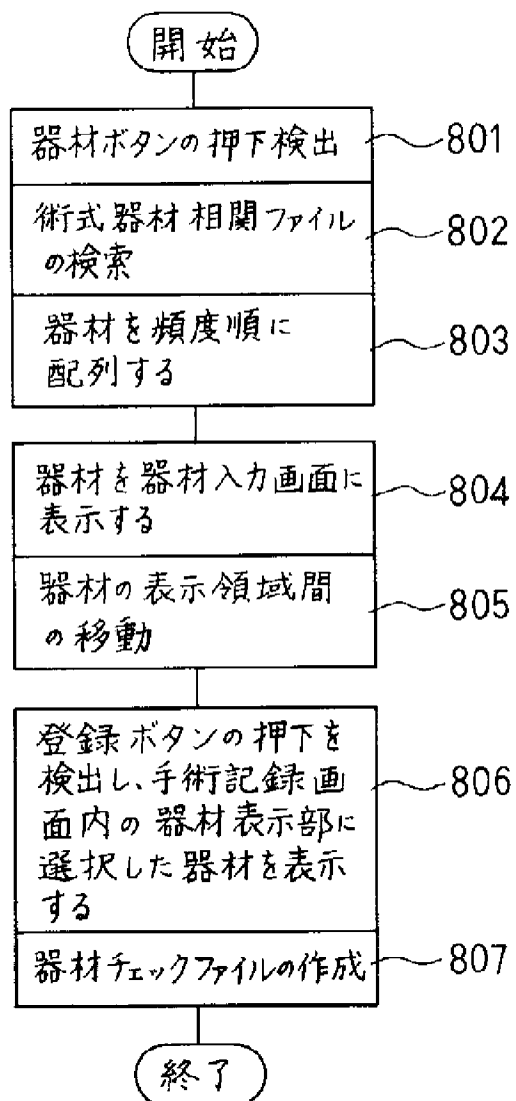
401

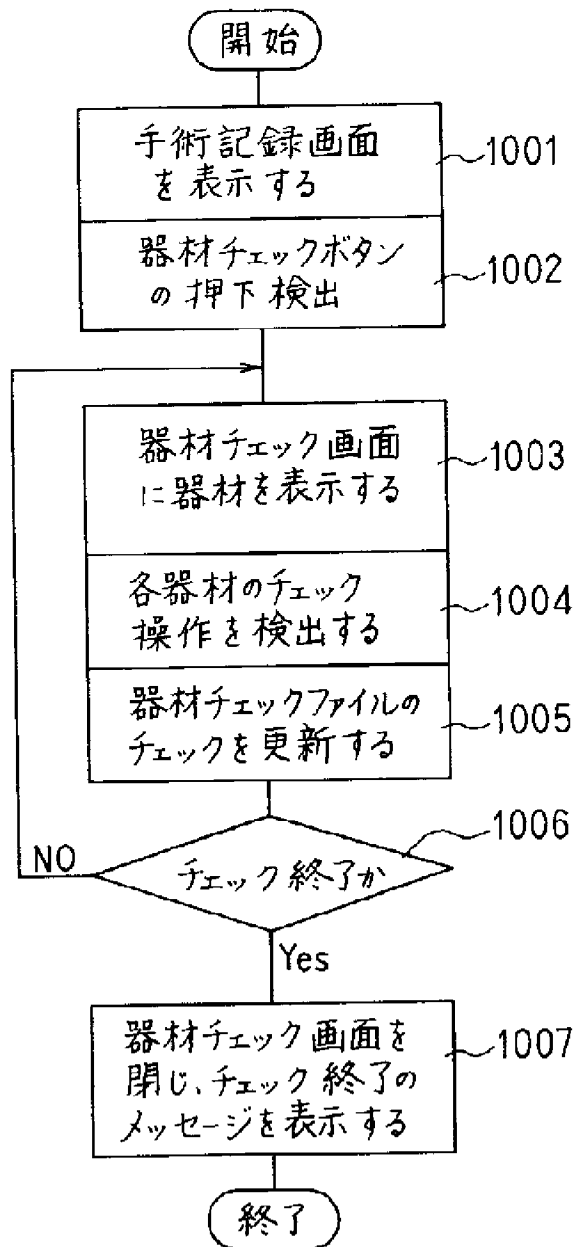
402

[Drawing 10 a]
図 10 a



[Drawing 10 c]
図 10c





[Translation done.]